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ABSTRACT

The changes that are occurring at an accelerating rate in the field of technology can be both frightening and challenging to the broadcasting industry. Some recent developments that affect the field of communication include an information bank that makes it possible to collect and store years of publication issues and then, through computers, to present them in usable, instantly extractable form; and a system that delivers information directly to the consumer through electronic print that is readable on a glass screen. In addition, fiber optics (in which a strand of fiber wire no bigger than a human hair can deliver dozens of television programs) and satellites make cable television almost obsolete; video recording devices, video cassettes, and video games threaten the future of television viewing; and a computer connected to 56 FM radio stations can transmit information nationwide without disturbing the FM broadcast signal. Broadcasters can cope with and take advantage of this new technology if they view themselves as being in the business of marketing information and entertainment, take advantage of their position at the center of news and entertainment, invest and experiment in these new devices, and begin immediately to make these changes. (MAI)

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THE CHANGING WORLD OF TELECOMMUNICATIONS

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BEFORE THE

BROADCAST EDUCATION ASSOCIATION

WASHINGTON, D. C.

NOVEMBER 16, 1978

"PERMISSION TO REPRODUCE THIS MATERIAL HAS BEEN GRANTED BY

James H. Hulbert

TO THE EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC) AND USERS OF THE ERIC SYSTEM."

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My father just had his 80th birthday last month. The farmhouse in which he was born was heated with woodburning fireplaces. It was lit by kerosene lamps. There was no central heating - to say nothing of air conditioning. There was no indoor plumbing - the johns were outside in the middle of those Michigan winters as well as the summers. When the family travelled they moved on foot or horseback, perhaps by horse and buggy. Communications were hand-carried from one person to another. In fact, when my father was born, people were living essentially the same as they had for centuries. During his lifetime he has seen more change than occurred in the previous 2,000 years.

Five years after my father's birth, Wilbur Wright flew a rickety contraption made of wood and cloth 852 feet at 31 miles an hour for a grand total of 59 seconds. Only 75 years later, within the life span of one person, airplanes can carry nearly four hundred people, or fly to Europe at 1300 miles an hour. In his time, the automobile, electricity, telephones, radio, television - to say nothing of central heating and plumbing, came into being.

In terms of improvements and changes in the life of the average man, my father has lived through what surely must be the most astounding period in the history of the world.

But there is something even more fascinating to contemplate: In our own field of communications, there is evidence that we are at the beginning, not the end, of a time of change which may be as far-reaching as those that occurred in the previous 75 years.

Are we broadcasters prepared for that? Are we even aware of these coming changes? I'm not sure.

Broadcasters have sometimes been accused of having a "fortress mentality" - of hunkering down behind the battlements to protect what we have, of not looking ahead to what is likely to happen in the future, nor even to what is happening now all around us.

Broadcasters certainly do know what's happening in broadcasting. Despite the allegation that broadcasters merely tend money machines, broadcasting is a tough, competitive business and broadcasters are very alert to what the competition is doing in programming and promotion. They are certainly alert to technological improvements. They keep a sharp eye out for the next mecnanical marvel such as video tape, ENG cameras, AM stereo. They certainly are competitive and alert in the field of sales.

The famous baseball pitcher, Satchel Paige, once said: "Don't look behind you, something may be gaining on you." In the broadcasting business today, I suggest that warning ought to be changed to: "Better look ahead, something may be laying in wait for you."

Because what is happening outside broadcasting may well have a greater impact on both radio and television than what is happening inside. And we had better pay attention because there is evidence not only that great changes are coming but that change is occurring at an accelerating rate.

Example: Until now, the vast amounts of information that man has collected over the years have sat in libraries and files, accessible to a few. Now, for the first time, much of that information is being collected and put into useable, instantly-extractable form. For example, the contents of ten years of the NEW YORK TIMES are now in an information bank and every day's

edition is added. This information bank has been wedded to the computer - another modern miracle. Fifteen years ago, it took a roomful of IBM computers to carry all the information that can be now carried on half a dozen tiny chips. Now everything of consequence that has been printed in the NEW YORK TIMES - facts, dates, names, quotes - are instantly available.

Further, a system for delivering information such as this directly to the consumer has already been perfected and is in use in England. It is called CEEFACTS, or Viewdata (the generic name is Teletext), and it delivers electronic print readable on a glass screen. Obviously all kinds of information can be supplied on such a system - news, sports scores, weather, menus, theater time tables, airplane schedules, stock quotations, or specialized medical or legal educational information for professionals. In fact, any information that a sufficient number of people are interested in to make it worth computerizing.

Example: The delivery of TV programs by cable television is nothing new; that technology is 30 years old at this point. More recently individual program delivery at an individual cost - or Pay Cable - has been added to that delivery system.

But even before that technology has come to full bloom, new delivery systems threaten to make it obsolete: Fiber Optics, where a strand of fiber wire no bigger than a human hair and made of sand, can deliver not only dozens of programs but has plenty of excess channels for delivery of sixty or seventy additional services into the home.

Or satellites. Satellites are already being used to distribute programs to cable systems and broadcasting stations. But is it really possible that everyone of us will have a satellite receiving dish on top of our house?

Who would ever have thought we would have had millions of television antennas on our roofs? But we do. If you think that is impossible - in Japan, they are experimenting with a home satellite receiving dish which can pick up the world will be within the cost of the average household.

Example: Video recording devices are expected to be down to the five or six hundred dollar range before very long. You have all seen the ads: record one program while watching another. Record programs automatically when you're not at home. Preset the device to record programs for an entire week.

Or buy a video cassette or a video disc player. Soon you'll be able to rent or buy a movie, a Broadway play or musical comedy, the Audubon bird guide, an Elton John concert or Spanish lessons to be played on your home viewer. You will be able to make your own home movies of your kids' birthday party, your son's Bar Mitzvah, or the grandparents' visit and play them back on your video tape machine - and you'll be able to wipe the tape and use it again.

The president of the Ampex Corporation says their studies indicate that ten million recorders will be in use within five years. And that could create an annual market for at least 100 million blank tape cassettes at an average price of $10.

Video games are already on the market. They are already being plugged in this year's Christmas advertisements. We heard recently of an advance in this area. Doctor Portia Issacson who runs the MicroStore in Dallas, which I have never seen but envision as kind of a Radio Shack for computers, predicts that every home will eventually have its own small computer. It sounds far-fetched but who ever thought that electronic hand

calculators would be available for ten dollars? Ms. Issacson's home already has a computer and a game has been developed - a Star Wars kind of game - which her children play using the computer and the television set. She says, because it is participatory and not merely observational, her kids prefer it to regular television, In fact, they fight over who's going to get to use the TV set for games.

Example: Last December, Warner Cable opened up Qube in Columbus, Ohio. It is a 30-channel wired system with a computer-based console in the home. Twenty of the channels are free television, ten are paid. It is two-way, allowing all kinds of feedback on programs and advertisements. Instant polls can be taken. The system can determine which homes are watching which programs - which raises some interesting First Amendment implications.

Example: There is already in being a network of fifty-six FM stations connected with a computer in McLean, Virginia. Digital Broadcasting Systems, the parent company, rents the subcarrier of each of these fifty-six radio stations and transmits information nationwide. Enormous amounts of information can be sent to just about anybody equipped to receive it without disturbing the FM stations' broadcast signals. To give you an idea of the potential, it has been claimed that all first class mail for every city in the country, except New York, could be handled by the subcarrier of a single FM station. For New York, it might take two subcarriers. There is a possibility that your mail could be sent instantaneously to a pick-up point via this subcarrier network, and then punched up instantaneously on your home Viewdata device.

That particular system emphasizes an important point: There are enormous interests who are desperately searching for methods of improving the delivery and dissemination of their products or services. The Post Office is drowning in mail and is looking for some method of delivery that will take the place of the essentially hand-delivery now used. Advertisers visualize instantaneous sales with a two-way system. Conceivably, there may be attached to that television set a transaction telephone. Comparison prices for foods or other goods at various stores will be displayed. Harry Homeowner or Harriet Housewife will pick up the telephone and order. Other companies such as Sears Roebuck, Safeway and J. C. Penney envision using such systems to reach and display information daily or hourly at all their wholesale branches or stores throughout the United States

The newspapers who have adopted the most startlingly efficient production equipment still rely on the boy on the bicycle to deliver the newspaper. They are studying electronic delivery. Banks are looking at electronic funds transfers as a relief from slow hand methods and paperwork. The consumer may eventually use his home receiver to balance his checkbook. AT&T, Western Union, IBM, RCA, and dozens of other corporate giants are working on these developments in their own self-interest.

And practically every one of these devices and systems points in one direction: to convergence in the home. Nearly all assume that a computer terminal and display device of varying capability and cost will eventually be in every home much as the television set or the telephone is today. A device which combines the many functions I've described and, most importantly for our business, a device which contemplates the sharing of the television set with many other services and functions.

What? says the broadcaster. My set. Share my television set, which was bought to receive my programs.

Exactly.

Is this frightening to broadcasters? Of course, it is. What will happen to networks? What will happen to local stations? What will happen to ratings since there will be no such thing as a schedule anymore? How will we measure sets-in-use? What happens to the copyright law? What happens to advertisers? Won't people tune out commercials for a quick look at Viewdata? Is this the end for us broadcasters?

All frightening questions. Change is frightening to everybody - and yet change represents an opportunity for those who can take advantage of it; a disaster for those who don't.

But I believe that broadcasters can take advantage of this developing, changing situation.

Probably the first change we must make is in our own thinking. If you ask a broadcaster what business he is in, he will say he's in the broadcasting business. I suggest that instead of confining ourselves and our mind and opportunities to that narrow field, we ought to think of ourselves as being in the business of manufacturing, packaging, distributing and marketing information and entertainment. That's really the business we are in.

Second, don't panic. Broadcasters are, in fact, in a very good position - a central position. We supply nearly all the entertainment and most of the news and information received by the American people. We also operate an extremely efficient method of transmitting that information to them.

Broadcasting is a national service but it is also a local service. Don't underrate localism. The desire for local news, weather, sports and features will always be a very strong one.

Broadcasting also has the advantage of instantaneousness and actuality which cannot be challenged in the near future.

And we learn from history. Prophesiers of doom and gloom said the radio industry would be destroyed by records. Who needed radio when you could select music that exactly fit your tastes and play it at your convenience without commercials? Then radio was going to be destroyed by television. Who needed television without pictures? Instead, radio has found ways not only to live but to prosper by emphasizing, immediacy, localism, mobility, and low cost. In fact, radio today is more diversified and prosperous now than ever before in its history.

Or take the movie industry. Everyone predicted destruction of the movie industry by television. Instead there are still theaters all over the country operating very profitably and the movie industry also supplies much of television's fare.

Now some radical changes took place in both those industries. I don't dispute that. But those who were agile and flexible enough managed to stay in business and grow and prosper, and - and this is important - the big winners were those who adopted the new technology and became part of the change - the networks who got into the music business, radio station owners, or movie companies who got into television.

That bit of history makes point three very important: Broadcasters should be free to get into any of these businesses. They should be free to invest and experiment, to own and to blend these new devices with broadcasting. The principal impediment to that will be the United States Government, which is apparently devoted to trying to break down into the smallest and most manageable pieces, companies which have any "influence" over the American people while at

the same time expanding and enlarging its own influence to a smothering and frightening degree. I think the Government's attempts are anti-social and monopolistic - but that's another speech.

Obviously the antitrust laws are in place to take care of extreme situations but entry should not be barred on theoretical and unproved grounds of mind-control. In my opinion, networks and stations should be able to explore and develop information banks, and computers, Teletex, Fiber Optics, satellites, video tape recorders, cassettes, discs, and any other facet of the so-called info-economy. It is our job at the NAB to keep these channels of opportunity open so that when changes take place, broadcasters who have invested and done good service for the American public, will not only continue to eixst but will prosper.

The last point is that the time is late. Everything I described to you is operative today. There is nothing "blue sky" about them. They are not technological developments in the laboratory which may come to us in the next ten years. They are here and functioning.

Neither I, nor any one else can predict exactly which devices will make it, nor even how soon. If I could do that, I would be a millionaire, but in my opinion, the business of providing mass entertainment, news and information to consumers through an advertising-supported system will always exist, but it is going to change. It is going to be done in different ways in the future. The question of whether it will be done by different people and different companies is one that I believe lies largely within our own power.

So my parting advice must be general, much like the advice we give to our kids: Be careful. Take care of yourself. Keep your elbows out.

Watch out for enemies. But experiment; don't be afraid to try things. Take advantage of your opportunities. Change is inevitable...Make the most of it.